

APPENDIX I

AUTOMATED MOBILITY SYSTEMS

The use of automated systems to support mobility operations for force projection is essential to maintaining data management and inputs into and interfaces between automated systems. The following systems are used to support mobility operations.

A. AUTOMATED AIR LOAD PLANNING SYSTEM (AALPS)

AALPS is a knowledge-based expert system that assists users in the complex task of planning and execution of aircraft loads for all types of deployments. It has been selected as the aircraft load planning system for the Department of Defense (DOD). AALPS operates on Pentium computers and is currently fielded to Army, Air Force, Navy and Marine Corps units throughout the Continental United States (CONUS), Europe and the Pacific. AALPS performs air load planning and execution for contingency planners and force designers. This entails the use of preplanned data (estimates) and the use of actual data for both “real-world” and “what-if” scenarios. AALPS is used for estimating airlift requirements (by specific aircraft type and delivery method), producing US Air Force (USAF) certified “flyable” load plans, and providing airlift/movement summary data and load reports ranging from a single mission to full-scale division deployments. The USAF adopted AALPS for use as the air-planning tool for channel traffic air movement of cargo and passengers. AALPS is designated for use on Windows NT and Windows 2000 operating systems. Sybase 12.0 is the database management system.

B. AUTOMATED MANIFEST SYSTEM (AMS)

AMS is a Defense Logistics Agency (DLA) initiative that utilizes laser-readable optical memory cards in place of paper packing slips on the exterior of shipment containers. The card contains a detailed list of the contents of the multipack including Transportation Control Number (TCN), National Stock Numbers and Document Numbers. AMS is used at depots, Central Receiving Points (CRPs), and Supply Support Activities (SSAs) such as the Direct Support Unit in a forward support battalion. AMS facilitates manifesting and tracking of multipack shipments from the depot to the CRP or SSA. AMS provides “in the box” asset visibility and may be used as the source of In-Transit Visibility (ITV) data. The AMS reader can be connected directly to the Automated Information System (AIS) at the receiving unit, thereby increasing the accuracy of data by automating the input of source data.

C. COMPUTERIZED MOVEMENT PLANNING AND STATUS SYSTEM (COMPASS)

COMPASS is an Army information management system that supports validation of unit movement requirements data prior to Joint Operation Planning and Execution System (JOPES) update. The system was designed to support unit movement planning and requirements for Active and Reserve Component Units. This system provides the Automated Unit Equipment List containing Unit Movement, which reflects the go-to-war equipment profile of deploying units.

D. CARGO MOVEMENTS OPERATIONS SYSTEM (CMOS)

CMOS is a legacy system that supports processing and movement of unit related and sustainment cargo worldwide. CMOS prepares linear/2 dimensional bar-coded Military Shipping Labels and, for Hazardous Cargo, Shippers Declarations for Dangerous Goods. It electronically transmits required clearance information to Defense Transportation System (DTS) aerial and water port systems. CMOS prepares movement documentation (Commercial Bills of Lading, Freight Warrants, Military Air/Truck Manifests). CMOS sends initial receipt and movement data to the Global Transportation Network (GTN). Non-Air Mobility Command designated aerial ports use CMOS

E. DELIBERATE CRISIS ACTION PLANNING AND EXECUTION SEGMENT (DCAPES)

DCAPES is an application of the Global Command and Control System (GCCS) that resides on a GCCS workstation and operates in a classified, shared data environment on the SECRET Internet Protocol Router Network. Integrating Operations, Logistics, Manpower, and Personnel Command and Control (C2) systems, DCAPES is used by the USAF to achieve the Chairman, Joint Chiefs of Staff goal to develop a Time-Phased Force and Deployment Data (TPFDD) within 72 hours. DCAPES links USAF planners with Joint War planners through GCCS JOPES. The purpose of DCAPES is to enable timely, employment-driven, USAF participation in the JOPES process supporting all levels of command, across the operational continuum using integrated tools, shared infrastructure, and common data consistent with the Joint and USAF Integrated C2 vision. The objective of DCAPES is to provide data and data manipulation capability to USAF planners and commanders to:

1. Perform rapid Operations Plan (OPLAN) development.
2. Conduct feasibility and capability analyses.
3. Support deployment, re-deployment, sustainment, mobilization, and reconstitution.

F. DIRECT VENDOR DELIVERY ELECTRONIC DATA INTERCHANGE (DVD EDI)

Through a series of initiatives, DLA and the Military Surface Deployment and Distribution Command (SDDC) are working with direct vendor delivery candidates to establish a standard set of data elements that will allow vendors to provide detailed shipping status via electronic data interchange. This data exchange will provide information on the content of sustainment cargo moving outside the DTS. Vendors will pass data to DOD automated information systems providing the initial source data required for force tracking and ITV reporting. As these DVD sustainment supplies move to the theater of operation via vendor or commercial carrier modes of transport, the commercial carrier ITV system will provide ITV data to DLA and SDDC AISs.

G. FINANCIAL AND AIR CLEARANCE TRANSPORTATION (FACTS) SYSTEM

FACTS supports the objectives and strategies presented in the DOD Transportation Corporate Information Management Strategic Plan and Enterprise Integration Implementation Strategy. FACTS provides direct support to DOD Air Clearance Authorities (ACAs) and Transportation Financial Management community. The goal of the FACTS system implementation effort is to eliminate redundant ACA and transportation financial management systems while retaining current systems

functionality-thus providing cost effective integration of Air Force, Army, Marine Corps, and Navy ACA and transportation financial management system responsibilities. As a key communications link, it provides the shipper with improved ITV of air-eligible cargo by providing cleared Advanced Transportation Control Movement Document data to the DTS. FACTS is operational and is being used by all Services.

H. GLOBAL AIR TRANSPORTATION EXECUTION SYSTEM (GATES)

GATES automates support for receipt, movement and billing of cargo and passengers. GATES provides the Air Mobility Command, the DOD, and commercial partners with an automated management system to process and track cargo and passenger information, support management of resources, provide logistical support information, generate standard and ad hoc reports, and provide message routing and delivery service for virtually all aircraft movement data. In the force projection scenario, GATES is the AIS that send aircraft arrival and departure ITV data to GTN.

I. GLOBAL COMBAT SUPPORT SYSTEM (GCSS)

GCSS is a DOD-level initiative to ensure interoperability across Combat Support (CS) AIS functions, as well as between CS and C2 AIS functions. It is neither an acquisition program nor a standard information system, but a strategy for enhancing CS effectiveness within and between the Services. GCSS requires each Service to implement common technical standards for their AIS in accordance with the Defense Information Infrastructure Common Operating Environment. This includes the use of standard data elements to improve interoperability and understanding when sharing information among the Services during joint operations. Each Service is in the process of upgrading to these new technical standards.

J. GLOBAL COMMAND AND CONTROL SYSTEM (GCCS)

GCCS is the key Command, Control, Communications, Computers and Intelligence (C4I) system. It is a system of interconnected computers that provides an integrated C4I capability to the entire joint community. It provides up to SECRET-level information from a variety of applications that have migrated, or are in the process of migrating from other systems. GCCS is used by the Joint Planning and Execution Community to document movement requirements, transportation closure, and other significant force projection events. GCCS is flexible enough for combat operations or humanitarian assistance missions. GCCS integrates deliberate and crisis action planning, force deployment and employment, fire support, air operations and planning, intelligence, and force status. It is designed to allow the expansion of planning and execution capabilities as new systems are designed. GCCS is based on a common operating environment allowing greater software flexibility, reliability, and interoperability with other automated systems. GCCS receives logistics information from Joint Total Asset Visibility (JTAV), GCSS, and GTN.

K. GLOBAL TRANSPORTATION NETWORK (GTN)

GTN is an automated C2 information system that provides transportation users and providers with an integrated view of transportation information. It gives the United States Transportation Command (USTRANSCOM) the ability to perform C2 operations, planning and analysis, and business operations, to meet customer requirements. GTN provides ITV for the DTS. GTN collects and integrates transportation information from selected DOD systems for use by transportation data customers, the Joint Staff, Combatant Commanders, and the Services. The system provides these

users the ability to monitor movement of forces, cargo, passengers, and patients and the movement of military and commercial airlift, sealift and surface assets. GTN is accessible on the World Wide Web. The time standards for updating GTN are established in this regulation.

L. INTEGRATED COMPUTERIZED DEPLOYMENT SYSTEM (ICODES)

1. ICODES is an AIS designed to support cargo management, shipload planning, and stowage at common-user and military ocean terminals. Responsibility for this function is shared among the SDDC, the United States (US) Army Forces Command Active and Reserve components, and Transportation Terminal Brigades/Battalions. The US Navy and US Marine Corps also perform this mission, as well as loading and stowing functions for primarily tactical land-based and sea-based operations.
2. ICODES provides the user with decision-support capabilities for planning and executing the ship loading and stowage of military cargoes including unit equipment. The planning function enables the user to execute the loading and stowage of military cargoes (aboard military or commercial ships) for onward movement to support DOD objectives during training, humanitarian assistance, preposition, and contingency operations.
3. The reporting and networking functions support the mission to provide Commanders with strict accountability of these cargoes during the loading, transshipment, and discharge at the port of debarkation.
4. ICODES currently interfaces with the Worldwide Port System (WPS), Integrated Booking System (IBS), and Marine Air-Ground Task Force Deployment Support System II. ICODES NT Version 5 is replacing the ICODES UNIX Version 3.1.2. The NT-based software application is capable of functioning in networked, stand-alone, and/or client server mode(s).

M. INTEGRATED BOOKING SYSTEM (IBS)

IBS is the lead SDDC execution system of the DTS for movement of military cargo by surface overseas. IBS manages and conducts these responsibilities by providing a single, worldwide, automated booking system to support the peacetime and wartime movement of unit and sustainment cargo in an efficient and timely manner. IBS automates existing manual interfaces with other SDDC systems and DOD agencies. IBS allows shippers to automatically book requirements instead of manually processing them through SDDC booking offices. Automatic booking of requirements reduces the level of manual intervention required. The Transportation Coordinator's Automated Information for Movements System II (TC AIMS II) interfaces with IBS for movements originating from the CONUS. Unit Deployment Equipment Lists (DELs) can be pushed to IBS to create the export traffic release request in IBS.

N. JOINT FORCE REQUIREMENTS GENERATOR II (JFRG II)

JFRG II is a TPFDD manipulating and editing application designed to facilitate deployment planning and execution while in garrison or forward deployed. It sources, analyzes, and refines TPFDDs and is capable of remote, low bandwidth operation or client/server operations via GCCS. It imports and exports JOPES executable TPFDDs and provides an interface between unclassified unit deployment planning systems and classified JOPES. JFRG II has been designated by Chairman Joint Chiefs of

Staff Instruction 3020.01 as the interim interface for all data movements between JOPES and TC-AIMS II.

O. JOINT OPERATION PLANNING AND EXECUTION SYSTEM (JOPES)

JOPES standardizes the joint planning system used to execute complex multi-service exercises, campaigns, and operations. It is a combination of joint policies, procedures, personnel, training, and a reporting structure supported by automated data processing systems, reporting systems, and GCCS. JOPES is a GCCS application. JOPES furnishes joint commanders and war planners, at all levels, standardized policy procedures and formats to execute a variety of required tasks. It assists planners in development of OPLANs, contingency plan, functional plans, campaign plans, and operations orders. JOPES is used for TPFDD management and development. It defines requirements and gains visibility of the movement of forces into the combatant commanders' area of responsibility. This system assists planners with the development of detailed deployment requirements, logistics estimates, transportation requirements, and assessment of the OPLAN for transportation feasibility. JOPES also tracks, plans, prioritizes, and monitors deployment status and requirements.

P. JOINT TOTAL ASSET VISIBILITY (JTAV)

JTAV is the capability that provides commanders, military Services, and DOD components with timely and accurate information on the location, movement, status, and identity of all supplies, equipment, units, and personnel, whether they are in transit, in-storage, or in process. JTAV also facilitates the ability to use this information to improve the overall performance of DOD logistics practices. The JTAV capability is an essential component of the overall GCSS system. JTAV provides the capability to obtain access to distributed data across DOD, including data on nontraditional supply assets, such as program manager materiel, unit-level operations and maintenance assets, and contractor or vendor-managed materiel.

Q. RADIO FREQUENCY IDENTIFICATION (RFID)

RFID is a family of technologies that enables hands-off processing of materiel transactions for cargo deploying through the DTS. RFID provides operators a means to remotely identify, categorize, and locate materiel automatically within relatively short distances. Data is digitally stored on RFID transponder devices, such as tags or labels. Remote interrogators (located a few inches to 300 feet from the transponder device) electronically retrieve the data via electromagnetic energy (radio or microwave frequency) and send the data to the AISs. The technology is divided into two categories of data storage and retrieval systems - passive and active. Active RFID systems are omni-directional and require moderately expensive high-capacity transponder devices. Active devices are effective portable databases and facilitate the rapid transfer of data to AISs with standoff capability. Passive systems generally require line-of-sight interrogation of powerless, inexpensive, low capacity transponder devices. Passive devices are adaptable for use at the item, case, and pallet level.

R. REGIONAL IN-TRANSIT VISIBILITY SERVERS

ITV Servers/Regional Servers are located in the CONUS, Korea and US Army Europe (USAREUR). They are used to collect DD Form 1348, Material Release Order and DD Form 1384, Transportation Control Movement Document (TCMD) data, which identifies sustainment shipments and deploying units moving within the DTS. The Korea and USAREUR servers collect data created within each collective areas of responsibility and transmits the data to the CONUS server. Shipments moving

from the CONUS to Korea/USAREUR are collected on the CONUS server and transmitted to either the Korea or USAREUR server. The CONUS server is responsible for providing data to GTN. This method is used to provide the Continuity of Operation Procedures in case of failure of a server. As the shipment transits one of the DOD nodes which has an ITV interrogator established for data collection each tag is interrogated and the collected tag data is transmitted to the respective ITV server. Users wishing knowledge of a specific shipment can query the system using the Document Number, TCN, or other pre-established queries and be capable of determining the last reported ITV event and location for the shipment. The interrogator can be co-located with an AIS or as a standalone with a communications capability. Movements Tracking System utilizing a satellite transponder also has the ability to report ITV data to the ITV Server/Regional Server.

S. SATELLITE TRACKING SYSTEMS

1. Defense Transportation Tracking System (DTTS). The mission of DTTS is to ensure the safe and secure movement of all DOD sensitive conventional arms, ammunition and explosives and other sensitive material using satellite technology and 24-hour staff oversight, and to support DOD ITV and Total Asset Visibility initiatives. DTTS monitors all sensitive shipments including non-ordnance related classified, pilferable, hazardous, and high value cargo moving from consignor to consignee. Monitoring is accomplished by using periodic satellite positioning and other coded/text messages from equipped vehicles. DTTS also identifies and coordinates responses to in transit accidents/incidents. DTTS provides ITV and expedites movements within the CONUS for all military Services, and other DOD and government agencies and programs. The ITV data is also provided to GTN.
2. Defense Transportation Reporting and Control System (DTRACS). DTRACS is the satellite tracking system similar to DTTS but currently used in the United States European Command theater of operations. United States Forces Korea uses a similar satellite tracking system called OmniTRACS. The system has five components – a subscriber unit, a satellite, an earth station, a network control center, and logistics managers. A subscriber unit is installed on the transportation platform being tracked. The subscriber unit can be queried by satellite giving the transponder location as determined by triangulation or Global Positioning System (GPS). The satellite passes the information to the earth station, which the DTRACS server is connected. The control center stores information in the DTRACS server. Logistics managers access the server to receive information from subscriber units and send information to the subscriber unit. DTRACS monitors the transportation platform, not the associated cargo. For ITV reporting to work with DTRACS, the subscriber operator must currently key in essential data fields relating to the equipment being moved. Without this operator entry, ITV of moving equipment is not currently possible.
3. Movement Tracking System (MTS). MTS is a satellite tracking system currently under development that will be installed on all common user logistic transport vehicles and selected CS tactical wheeled vehicles and Army watercraft. MTS will support force projection through the full spectrum of military operations. The system's integration with TC-AIMS II and GCSS-Army will provide commanders and distribution managers an unprecedented movement tracking, control, and management capability. It will provide real-time information on the location and status of distribution platforms using cabin console-mounted hardware and satellite technology. MTS will incorporate various technologies including GPS, automated identification technology, vehicle diagnostics, and non-line of sight communication and mapping. It will provide flexibility and control over distribution operations to include the ability to re-route supplies to higher priority needs, avoid identified hazards, and inform operators of unit location changes. MTS will

be used primarily to enhance distribution operations from the Port of Debarkation to the brigade rear boundary. MTS control stations will be established in Distribution Management Centers, movement control elements, distribution terminals, and mode operator headquarter locations. MTS provides the distribution system the capability to:

- a. Track the location of vehicles and communicate with vehicle operators (United States and Host Nation).
 - b. Provide real-time ITV of movements within a theater.
 - c. Redirect movements based on changes to battlefield requirements.
4. Intelligent Road and Rail Information System (IRRIS). IRRIS has been developed to enable rapid deployment of personnel, equipment and supplies and to improve the global deployability of forces. IRRIS is a Web-based system that uses information technology to enable military users to obtain detailed, timely, and relevant information about road conditions, construction, incidents, and weather that might interfere with the movement of personnel and cargo from origin to ports through a user-friendly browser interface on the Internet. It leverages the advances in information technology, Geographic Information Systems, and Location Based Services to provide decision-makers with critical, timely, and relevant information necessary for efficient, and rapid deployment of personnel and equipment between origins and strategic ports. It provides planners with a real-time tool for efficient and effective routing of people and cargo and enables access to this information anytime, anywhere, and on any device.

T. TRANSPORTATION COORDINATOR-AUTOMATED COMMAND AND CONTROL INFORMATION SYSTEM (TC-ACCIS)

TC-ACCIS is an information management and data communications system that Army units (active and reserve) use to plan and execute exercises and deployments. System capability includes the ability to create and maintain Automated Unit Equipment List (AUEL) and Deployment Equipment List (DEL) movement data, prepare convoy requests, convoy documentation and march tables, create military shipping labels, prepare rail load plans, create and transmit shipping documentation (i.e., Commercial Bills of Lading) and prepare vehicle load cards and vehicle/container packing lists. Units maintain their AUEL and develop their DEL with secondary loads using TC-ACCIS. TC-ACCIS application software resides on computers at the Transportation Office (TO) of forty CONUS installations and TOs or movement control units in overseas theaters. The TO, using the central computer, will consolidate requirements and transmit equipment lists and transportation requests to systems outside TC-ACCIS, to COMPASS, IBS, GTN, GATES, WPS, and AALPS. The COMPASS message is used to update JOPES. Through TC-ACCIS, the TO also provides SDDC the deployment requirements (such as Surface DEL), domestic routing requests, export traffic release requests, and passenger transportation requirements. Selected TC-ACCIS functionality will migrate to TC-AIMS II.

U. TRANSPORTATION COORDINATOR'S-AUTOMATED INFORMATION FOR MOVEMENTS SYSTEM (TC-AIMS II)

1. TC-AIMS II replaces TC-ACCIS, Transportation Information System-Theater of Operations, TC-AIMS (Marine Corps) and selected other transportation systems. It is a DOD system designed for use by all Services. It supports all unit deployment, redeployment, and retrograde operations requirements. TC-AIMS II will operate in conjunction with the GCSS to provide the automated

tools needed for successful distribution management. TC-AIMS II produces linear bar codes, two-dimensional bar codes, military shipping labels, registers and reads radio frequency tags, and reads Controlled Access Cards.

2. TC-AIMS II provides the capability to automate unit movement and TO planning and execution procedures in both garrison and deployed environments. It will provide an automated information management capability to managers involved with movement control and allocation of common-user land transportation in a theater of operations. TC-AIMS II exports data to GTN and C2 systems at various command levels.
3. TC-AIMS II future capabilities.
 - a. TC-AIMS II operates to support daily military transportation and specific deployment-related deliberate planning and execution requirements. The home station configuration uses either an enterprise architecture or existing base local area network. TC-AIMS II has the capability to break away from hosts and operate in a stand-alone laptop platform to support users in a field environment, e.g. reception, staging, onward movement, and integration operations. Units deploy with their own TC-AIMS II hardware platforms.
 - b. For movement control organizations, TC-AIMS II will provide an automated capability to forecast the arrival of personnel, intertheater cargo, containerized shipments, and intratheater shipments. It also maintains visibility of command-interest cargo throughout the theater. Movement control elements will have the capability to coordinate and provide transportation services to customers. Automated functions include documenting transportation movement requests, tasking mode operators, and reporting container and cargo movements. Mode operators will have the automated capability to receive commitments, task specific assets, and maintain fleet asset status data. Other capabilities include scheduling and deconflicting convoy movements, maintaining unit location data, and maintaining in transit unit or cargo visibility.

V. WORLDWIDE PORT SYSTEM (WPS)

WPS is the SDDC worldwide unclassified system for managing export and import of DOD cargo at water ports. It provides detailed data concerning items of cargo arriving, departing, and on-hand at the water terminal. WPS collects cargo data for surface movements; captures receipt, staging, and loading data at ports; and generates the ship manifest/booking upon completion of vessel loading. WPS supports ITV for both general cargo and unit moves. It produces those reports necessary for terminal operations and generates the Defense Transportation Regulation ocean cargo manifest. WPS produces and reads/interrogates Automated Information Technology data storage devices (bar code and RFID) through a business process server. WPS receives advanced data from TC-AIMS II and IBS and provides ITV data to GTN. For other than CONUS movements, WPS receives the deployment cargo requirements from TC AIMS II to assist the Military Cargo Ocean Booking Office with scheduling ships.